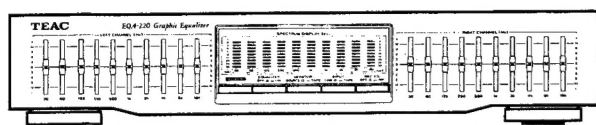


TEAC®**SERVICE MANUAL****EQA-220/EQA-110****Graphic Equalizer****NOTES**

- PC boards shown are viewed from parts side.
- Parts marked with * require longer delivery time.
- The parts with no reference number or no parts number in the exploded views are not supplied.
- As regards the resistors and capacitors, refer to the circuit diagrams contained in this manual.
- ⚠ Parts marked with this sign are safety critical components. They must be replaced with identical components - refer to the appropriate parts list and ensure exact replacement.
- Parts of [] mark can be used only with the version designated.
 [EX/T]: U. S. A. and GENERAL EXPORT [C]: CANADA
 [GE]: GENERAL EXPORT [E]: EUROPE

1. SPECIFICATIONS

EQA-220

Number of Channels: 2

Number of Bands: 10

Center Frequencies:

30, 60, 125, 250, 500, 1k, 2k, 4k, 8k, 16kHz

Boost/Cut Range: ± 12 dB

Input :

Impedance: 47 k ohms

Nominal Level: 0.3 V

Outputs:

Impedance: 1 k ohms

Maximum Level: 6 V

Frequency Response*: 10 Hz – 100 kHz, ± 1 dB

Total Harmonic Distortion: 0.01 %

Signal-to-Noise Ratio*: 90 dB (IHF A Weighted)

Power Requirements:

115/230 V AC, 50/60 Hz

(U.S.A./General Export Model)

120 V AC, 60 Hz (Canada Model)

230 V AC, 50 Hz (Europe Model)

240 V AC, 50 Hz (U.K./Australia Model)

Power Consumption: 12 W

Dimensions (W × H × D):

435 × 83 × 213 mm (17-1/8" × 3-1/4" × 8-3/8")

Weight (net): 2.7 kg (5-15/16 lbs.)

Standard Accessories:

RCA pin-plug cords

EQA-110

Number of Channels: 2

Number of Bands: 10

Center Frequencies:

30, 60, 125, 250, 500, 1k, 2k, 4k, 8k, 16kHz

Boost/Cut Range: ± 12 dB

Input :

Impedance: 47 k ohms

Nominal Level: 0.3 V

Outputs:

Impedance: 1 k ohms

Maximum Level: 6 V

Frequency Response*: 10 Hz – 100 kHz, ± 1 dB

Total Harmonic Distortion: 0.01 %

Signal-to-Noise Ratio*: 90 dB (IHF A Weighted)

Power Requirements:

115/230 V AC, 50/60 Hz

(U.S.A./General Export Model)

120 V AC, 60 Hz (Canada Model)

230 V AC, 50 Hz (Europe Model)

240 V AC, 50 Hz (U.K./Australia Model)

Power Consumption: 8 W

Dimensions (W × H × D):

435 × 83 × 213 mm (17-1/8" × 3-1/4" × 8-3/8")

Weight (net): 2.5 kg (5-1/2 lbs.)

Standard Accessories:

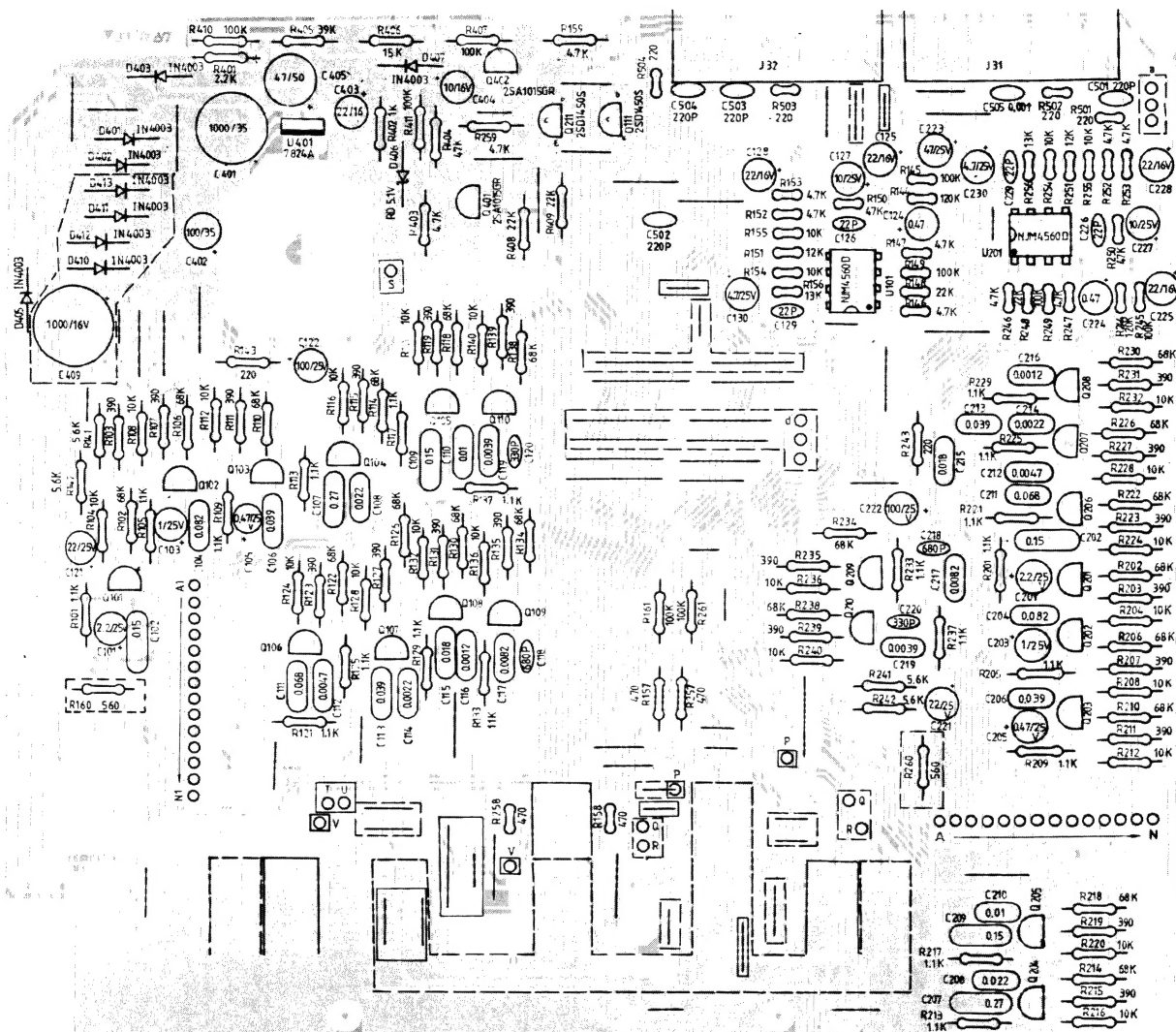
RCA pin-plug cords

* Measured with the equalizer sliders set to center-flat frequency response.

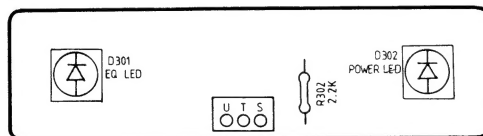
- Improvements may result in the specifications and feature changing without notice.
- Illustrations may differ slightly from production models.

2. PC BOARDS AND PARTS LIST

MAIN PCB



LED PCB (EQA-110)



MAIN PCB ASSY (EQA-220)

| REF. NO. | PARTS NO. | DESCRIPTION |
|----------|--------------|---------------------------|
| | *9A04291400 | MAIN PCB ASSY [EX/T,GE,C] |
| | *9A04291420 | MAIN PCB ASSY [E] |
| | 9A04296500 | PLATE, EARTH A |
| C401 | △ 9A04171900 | C, ELEC 1000UF/35V |
| C409 | △ 9A04171800 | C, ELEC 1000UF/16V |
| D401-403 | △ 9A04166700 | DIODE, 1N4003 |
| D405 | △ 9A04166700 | DIODE, 1N4003 |
| D406 | 9A04166800 | DIODE, RD5.1E |
| D407 | 9A04166700 | DIODE, 1N4003 |
| D410-413 | △ 9A04166700 | DIODE, 1N4003 [EX/T,GE,C] |
| J31 | 9A04167200 | JACK, RCA 4P YKC21-0349 |
| J32 | 9A04167300 | JACK, RCA 4P YKC21-0018A |
| Q101-110 | 9A04166900 | TR, 2SC732TM |
| Q111,211 | 9A04167100 | TR, 2SD1450S |
| Q201-210 | 9A04166900 | TR, 2SC732TM |
| Q401,402 | 9A04167000 | TR, 2SA1015GR |
| S33 | 9A04166400 | SW, PUSH PBS-KS-002A |
| S401 | △ 9A04166100 | SW, PUSH SPUF12SE07-TK |
| U101,201 | 9A04166500 | IC, NJM4560D |
| U401 | △ 9A04166600 | IC, NJM7824A |

MAIN PCB ASSY (EQA-110)

| REF. NO. | PARTS NO. | DESCRIPTION |
|----------|--------------|---------------------------|
| | *9A04291300 | MAIN PCB ASSY [EX/T,GE,C] |
| | *9A04291320 | MAIN PCB ASSY [E] |
| | 9A04296500 | PLATE, EARTH A |
| C401 | △ 9A04171900 | C, ELEC 1000UF/35V |
| D401-403 | △ 9A04166700 | DIODE, 1N4003 |
| D405 | △ 9A04166700 | DIODE, 1N4003 |
| D406 | 9A04166800 | DIODE, RD5.1E |
| D407 | 9A04166700 | DIODE, 1N4003 |
| J31 | 9A04167200 | JACK, RCA 4P YKC21-0349 |
| J32 | 9A04167300 | JACK, RCA 4P YKC21-0018A |
| Q101-110 | 9A04166900 | TR, 2SC732TM |
| Q111,211 | 9A04167100 | TR, 2SD1450S |
| Q201-210 | 9A04166900 | TR, 2SC732TM |
| Q401,402 | 9A04167000 | TR, 2SA1015GR |
| S31 | 9A04166200 | SW, PUSH PBS-22LP3-F18 |
| S32 | 9A04166300 | SW, PUSH PBS-42LP3-F18 |
| S401 | △ 9A04166100 | SW, PUSH SPUF12SE07-TK |
| U101,201 | 9A04166500 | IC, NJM4560D |
| U401 | △ 9A04166600 | IC, NJM7824A |

LED PCB ASSY (EQA-110)

| REF. NO. | PARTS NO. | DESCRIPTION |
|----------|-------------|---------------------|
| | *9A04330100 | LED PCB ASSY |
| D301 | 9A04167900 | LED, 333AD (ORANGE) |
| D302 | 9A04167800 | LED, 33310C (RED) |

DISPLAY PCB ASSY (EQA-220)

| REF. NO. | PARTS NO. | DESCRIPTION |
|----------|-------------|------------------|
| | *9A04330200 | DISPLAY PCB ASSY |
| D303-312 | 9A04162200 | DIODE, 1K60 |
| Q301 | 9A04162300 | TR, 2SD1450S |
| Q302-311 | 9A03979200 | TR, 2SC1815GR |
| U301-303 | 9A04162100 | IC, NJM2902N |
| U304-306 | 9A04162000 | IC, TC4066BP |
| U307,308 | 9A04161800 | IC, BA6124 |
| U309 | 9A04161900 | IC, TC4017BP |

VR PCB L ASSY (EQA-220)

| REF. NO. | PARTS NO. | DESCRIPTION |
|----------|-------------|----------------|
| | *9A04330800 | VR PCB L ASSY |
| R10-19 | 9A04167500 | VR, SLIDE 250K |
| | 9A04167700 | LED, 3534HD |

VR PCB L ASSY (EQA-110)

| REF. NO. | PARTS NO. | DESCRIPTION |
|----------|-------------|----------------|
| | *9A04329900 | VR PCB L ASSY |
| R10-19 | 9A04167500 | VR, SLIDE 250K |

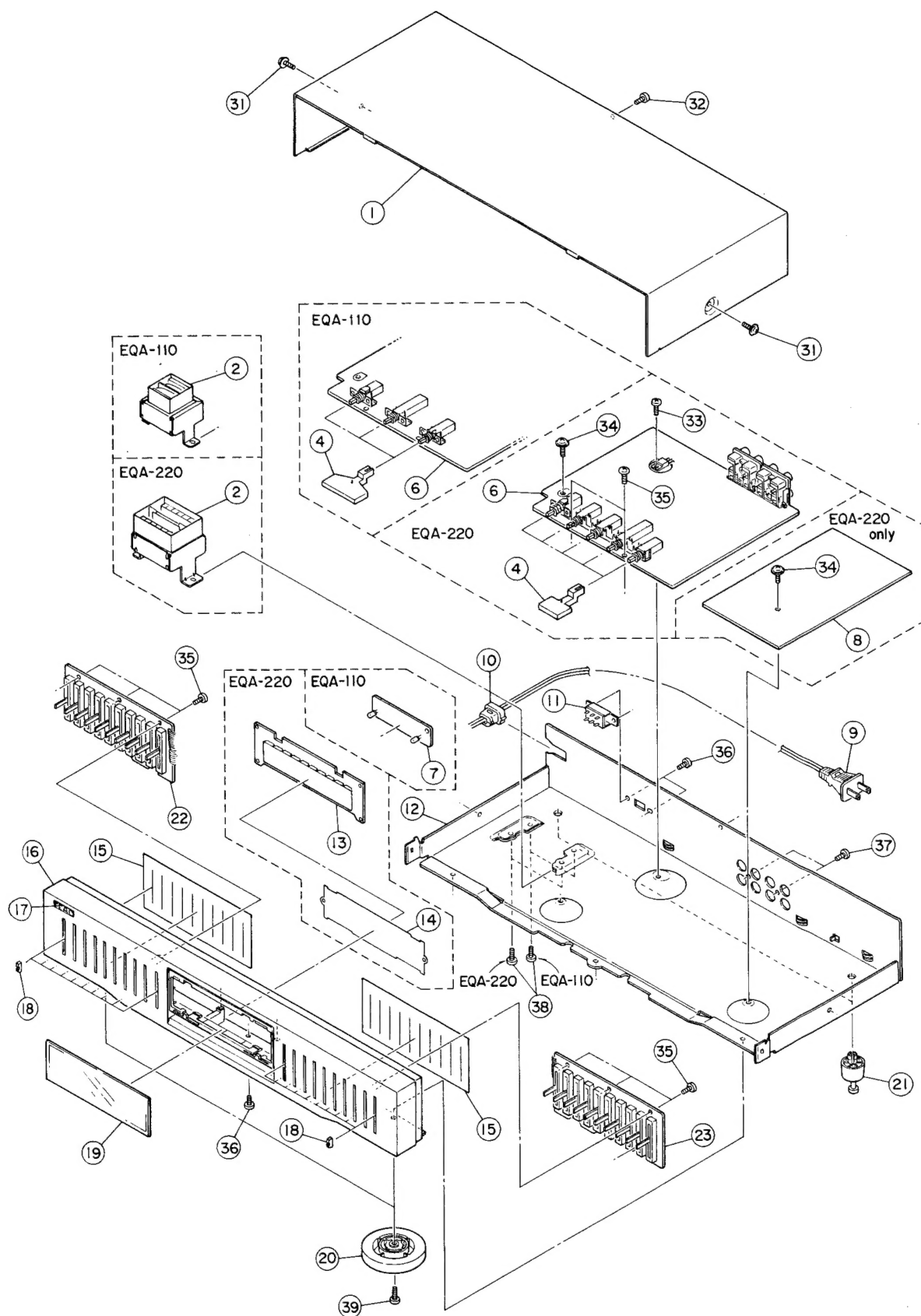
VR PCB R ASSY (EQA-220)

| REF. NO. | PARTS NO. | DESCRIPTION |
|----------|-------------|----------------|
| | *9A04330900 | VR PCB R ASSY |
| R20-29 | 9A04167500 | VR, SLIDE 250K |
| | 9A04167700 | LED, 3534HD |

VR PCB R ASSY (EQA-110)

| REF. NO. | PARTS NO. | DESCRIPTION |
|----------|-------------|----------------|
| | *9A04330000 | VR PCB R ASSY |
| R20-29 | 9A04167500 | VR, SLIDE 250K |

3. EXPLODED VIEW AND PARTS LIST



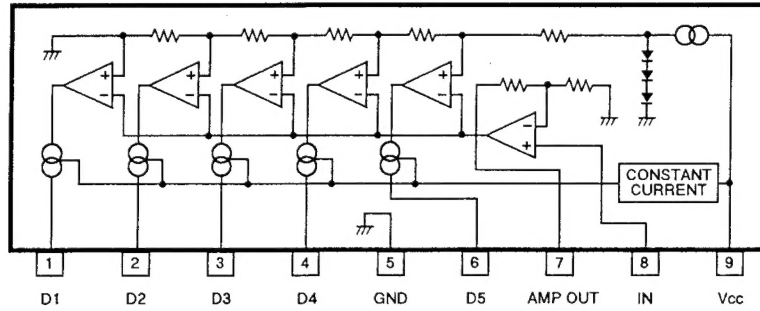
| REF. NO. | PARTS NO. | DESCRIPTION | REMARKS |
|----------|---------------|---------------------------------|---------------------|
| 1 | *9A04156200 | BONNET | |
| 2 | △ 9A04156900 | TRANS. | EQA-110 C |
| | △ 9A04157000 | TRANS. | EQA-110 E |
| | △ 9A04157100 | TRANS. | EQA-110 EX/T, GE |
| | △ 9A04157200 | TRANS. | EQA-220 C |
| | △ 9A04157300 | TRANS. | EQA-220 E |
| | △ 9A04157400 | TRANS. | EQA-220 EX/T, GE |
| 4 | 9A04157500 | BUTTON, PUSH | EQA-220 |
| | 9A04157600 | BUTTON, PUSH | EQA-110 |
| 6 | *9A04291300 | MAIN PCB ASSY | EQA-110 EX/T, GE, C |
| | *9A04291320 | MAIN PCB ASSY | EQA-110 E |
| | *9A04291400 | MAIN PCB ASSY | EQA-220 EX/T, GE, C |
| | *9A04291420 | MAIN PCB ASSY | EQA-220 E |
| 7 | *9A04330100 | LED PCB ASSY | EQA-110 |
| 8 | *9A04330200 | DISPLAY PCB ASSY | EQA-220 |
| 9 | △ *9A04156600 | AC CORD | EX/T, C |
| | △ *9A04156700 | AC CORD | GE |
| | △ *9A04156800 | AC CORD | E |
| 10 | △ *9A04159600 | BUSHING, SPT-1 #2271 | |
| 11 | △ 9A04158200 | SW, SLIDE SL13B-022 | EX/T, GE |
| 12 | *9A04156300 | CHASSIS, MAIN | EQA-110 EX/T |
| | *9A04309600 | CHASSIS, MAIN | EQA-110 C |
| | *9A04309700 | CHASSIS, MAIN | EQA-110 E |
| | *9A04309800 | CHASSIS, MAIN | EQA-110 GE |
| | *9A04309900 | CHASSIS, MAIN | EQA-220 C |
| | *9A04310000 | CHASSIS, MAIN | EQA-220 E |
| | *9A04310100 | CHASSIS, MAIN | EQA-220 GE |
| | *9A04310300 | CHASSIS, MAIN | EQA-220 EX/T |
| 13 | *9A04161700 | DISPLAY UNIT, LP910-1/3H6Y..... | EQA-220 |
| 14 | *9A04157800 | COVER, METER | EQA-220 |
| 15 | *9A04157700 | MASK, SLIDE | |
| 16 | *9A04156400 | PANEL, FRONT | EQA-110 |
| | *9A04156500 | PANEL, FRONT | EQA-220 |
| 17 | *9A04291000 | EMBLEM, TEAC | |
| 18 | 9A04158000 | KNOB, SLIDE | EQA-220 |
| | 9A04158100 | KNOB, SLIDE | EQA-110 |
| 19 | *9A04157900 | WINDOW | EQA-110 |
| | *9A04310400 | WINDOW | EQA-220 |
| 20 | 9A04291100 | FOOT ASSY | |
| 21 | 9A04158300 | FOOT, FF-025 | |
| 22 | *9A04330800 | VR PCB L ASSY | EQA-220 |
| | *9A04329900 | VR PCB L ASSY | EQA-110 |
| 23 | *9A04330900 | VR PCB R ASSY | EQA-220 |
| | *9A04330000 | VR PCB R ASSY | EQA-110 |
| 31 | *9A04158600 | SCREW, CAP-S T3*6 (BLK) | |
| 32 | *9A04158700 | SCREW, C-TITE T3*8 (BLK) | |
| 33 | *9A04159000 | SCREW, BTT-S T3*8 | |
| 34 | *9A04158900 | SCREW, CAP-S T3*6 | |
| 35 | *9A04158800 | SCREW, PTT-P T3*8 | |
| 36 | *9A04159300 | SCREW, BTT-S T3*6 | |
| 37 | *9A04159100 | SCREW, BTT-P T3*8 | |
| 38 | *9A04159200 | SCREW, BTT-S T4*8 | |
| 39 | *9A04159400 | SCREW, BTT-S T3*10 | |

INCLUDED ACCESSORIES

| REF. NO. | PARTS NO. | DESCRIPTION | REMARKS |
|----------|-------------|---------------------------------------|------------------|
| | *9A04160500 | RCA PIN-PLUG CORDS | |
| | *9A04071200 | EQA-110 OWNER'S MANUAL (MULTI.) | EQA-110 C, E, GE |
| | *9A04121600 | EQA-110 OWNER'S MANUAL (ENG./SPANISH) | EQA-110 EX/T |
| | *9A04071300 | EQA-220 OWNER'S MANUAL (MULTI.) | EQA-220 C, E, GE |
| | *9A04121700 | EQA-220 OWNER'S MANUAL (ENG./SPANISH) | EQA-220 EX/T |

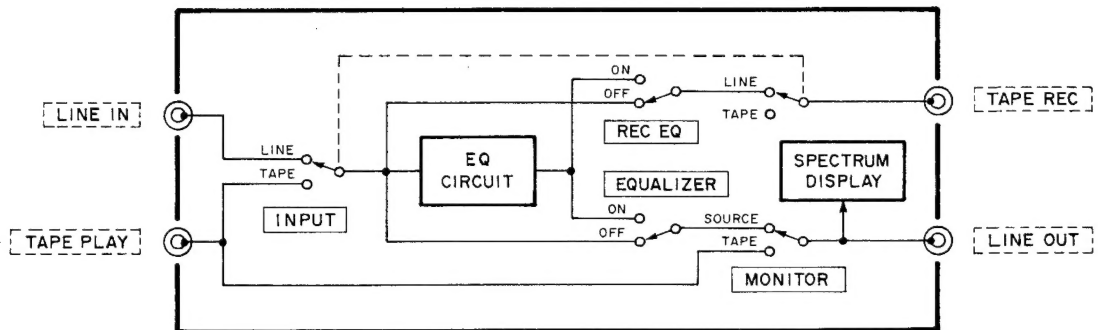
4. IC BLOCK DIAGRAM

BA6124

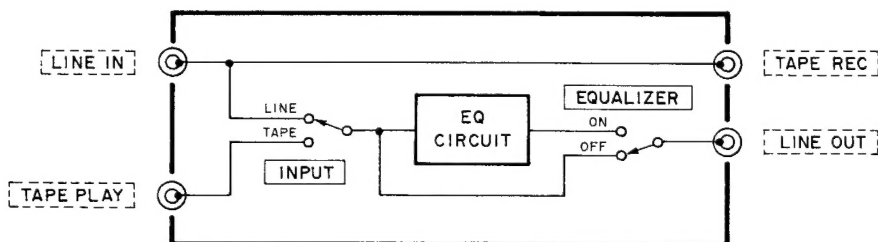


5. BLOCK DIAGRAMS

EQA-220



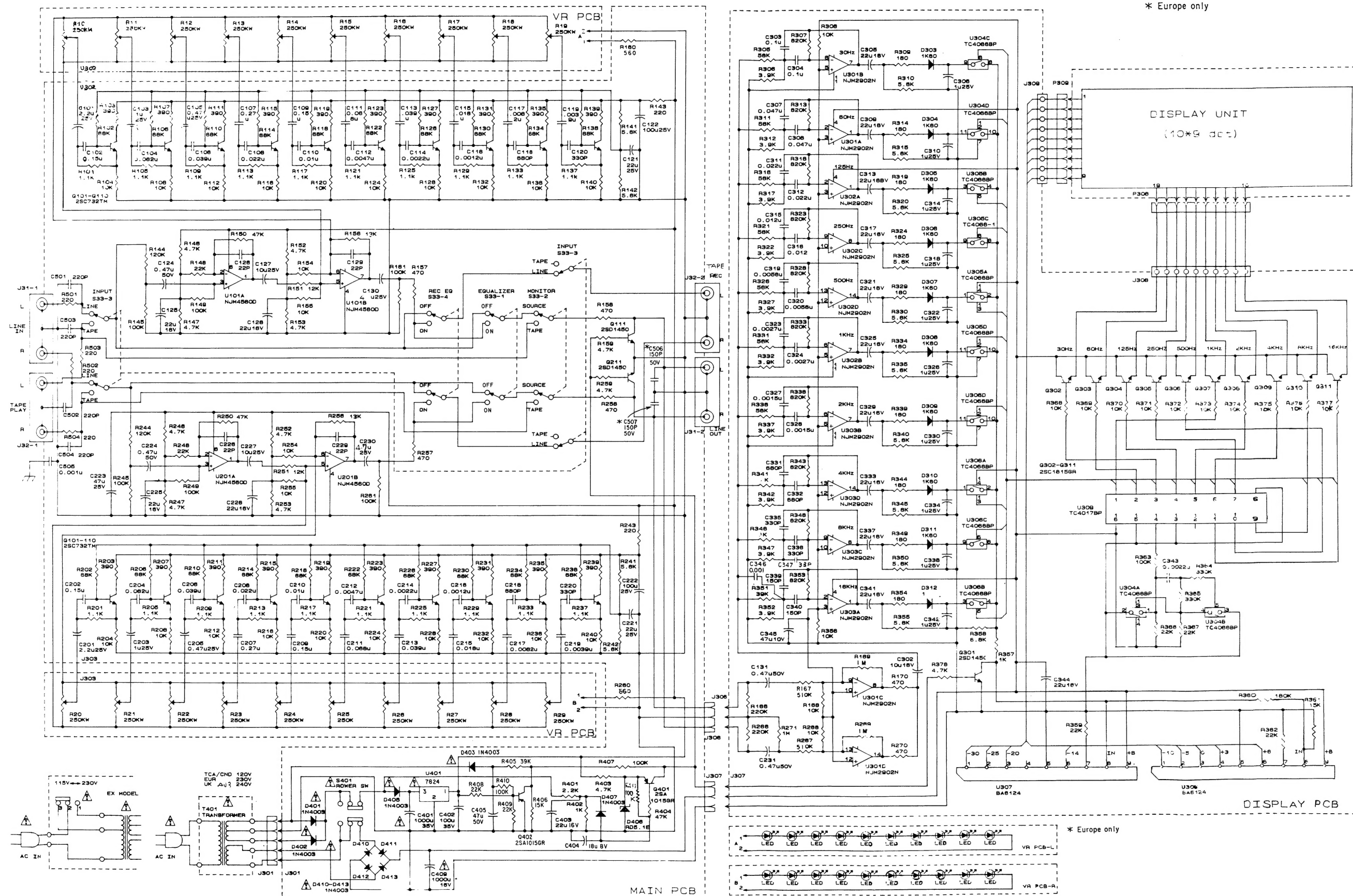
EQA-110



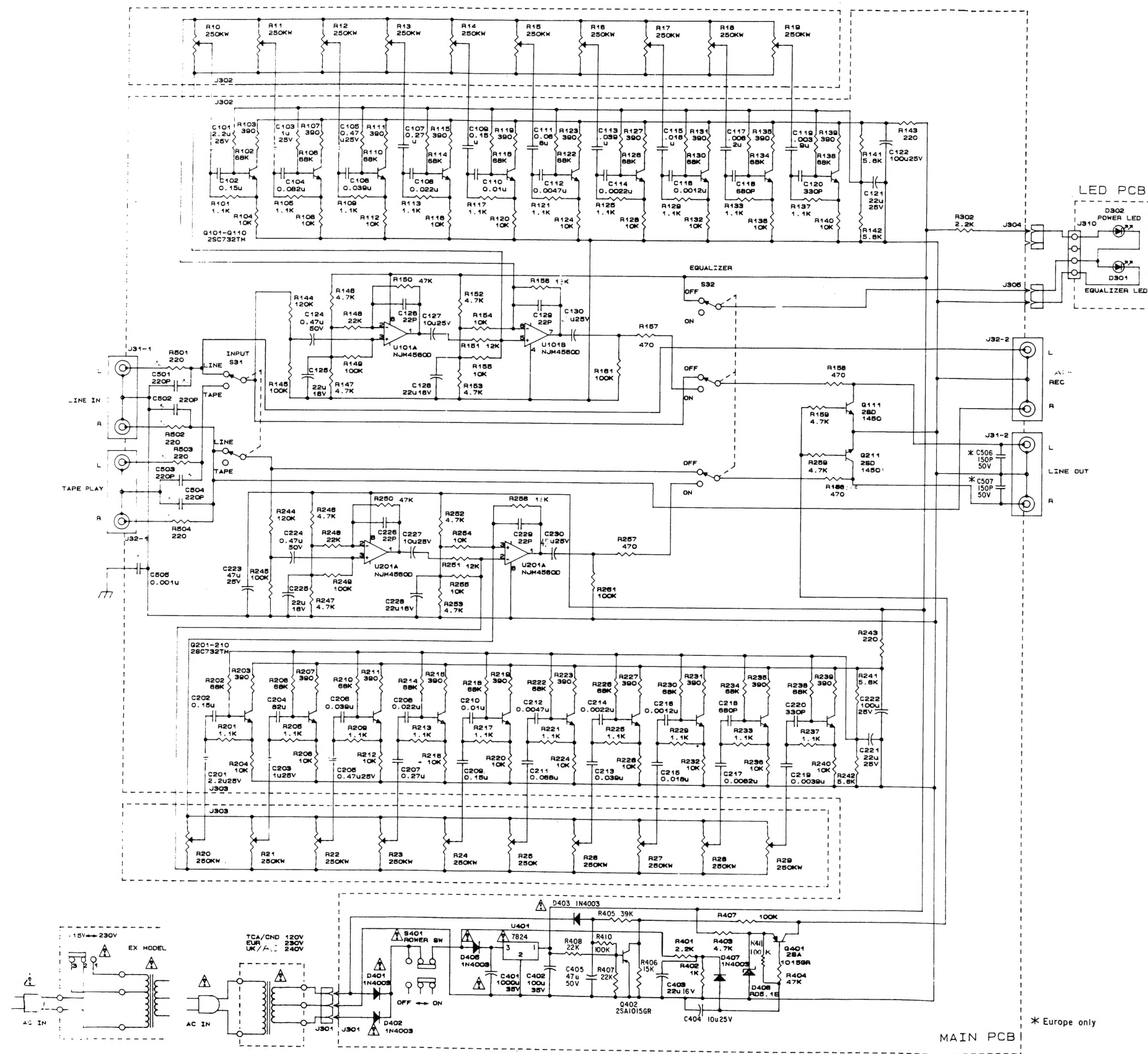
6. EQA-220 SCHEMATIC DIAGRAM

INSTRUCTIONS FOR SERVICE PERSONNEL
BEFORE RETURNING APPLIANCE TO THE CUSTOMER, MAKE LEAKAGE-CURRENT OR RESISTANCE MEASUREMENTS TO DETERMINE THAT EXPOSED PARTS ARE ACCEPTABLY INSULATED FROM THE SUPPLY CIRCUIT.

⚠ Parts marked with this sign are safety critical components. They must always be replaced with identical components - refer to the TEAC part list and ensure exact replacement.



7. EQA-110 SCHEMATIC DIAGRAM



* Europe only

INSTRUCTIONS FOR SERVICE PERSONNEL
BEFORE RETURNING APPLIANCE TO THE CUSTOMER, MAKE LEAKAGE-CURRENT OR RESISTANCE MEASUREMENTS TO DETERMINE THAT EXPOSED PARTS ARE ACCEPTABLY INSULATED FROM THE SUPPLY CIRCUIT.

⚠ Parts marked with this sign are safety critical components. They must always be replaced with identical components - refer to the TEAC part list and ensure exact replacement.

EQA-220/EQA-110

TEAC®

| | | |
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